

# DIPOBRATO SARBAPALLI

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## EDUCATION

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**University of Illinois at Urbana Champaign (UIUC)** *Urbana-Champaign, IL*  
Doctor of Philosophy in Materials Science and Engineering, GPA: 3.90/4.00 *May 2023 (expected)*  
*Focus:* Electro-analytical studies on Li-ion and redox flow batteries

**University of Illinois at Urbana Champaign (UIUC)** *Urbana-Champaign, IL*  
Master of Science in Civil Engineering, GPA: 4.00/4.00 *May 2018*  
*Focus:* Construction materials chemistry, utilizing a materials science approach

**National Institute of Technology, Tiruchirappalli (NITT)** *Tiruchirappalli, India*  
Bachelor of Technology in Civil Engineering, GPA: 8.86/10.00 *May 2015*  
*Placed in First Class (with distinction)*

## HONORS

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- Awarded with the Best Poster Award during the SEAC Poster session, PITTCON 2020, Chicago
- Awarded the DAAD-RISE Fellowship by the German Government to intern with BASF at Ludwigshafen, Germany (50 students selected across United States and Canada)
- Rated as Outstanding Teaching Assistant (Top 10% in terms of teaching effectiveness across campus) by students for CEE 300 – Behavior of Materials over Spring 2018
- Rated as Outstanding and Excellent Teaching Assistant for CEE 401 – Concrete Materials over Fall 2016 and Fall 2017 respectively

## RESEARCH EXPERIENCE

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**Department of Chemistry, University of Illinois** *Urbana, IL*  
*Graduate Research Assistant || Adviser: Dr. Joaquín Rodríguez-López* *Fall 2018 - Present*

- Studying alkali-ion intercalation in graphene with or without surface modifiers
- Characterizing electrode-electrolyte interfacial processes affecting molecular reactivity in redox-flow batteries
- Using MATLAB and Python to develop scripts for rapid analysis of electrochemical data

**Advanced Materials and Systems Research, BASF SE** *Ludwigshafen, Germany*  
*Intern and Deutscher Akademischer Austauschdienst (DAAD) Fellow* *May - August 2017*

- Used atomic force microscopy to measure adhesion of paint and adhesive polymer particles to inorganic fillers like calcium carbonate, mica, silica and iron oxide
- Applied numerical models to treat experimental data on Mathematica to quantify adhesion

**Department of Civil and Environmental Engineering, University of Illinois** *Urbana, IL*  
*Graduate Research Assistant || Adviser: Dr. Paramita Mondal* *Fall 2015 - Summer 2018*

- Improved performance in green aluminosilicate based binders by adding external seeding agents
- Characterized the dissolution of sodium aluminosilicates in salicylic acid-methanol

## TEACHING EXPERIENCE

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**Department of Civil and Environmental Engineering, University of Illinois** *Urbana, IL*  
*Graduate Teaching Assistant (CEE 300 – Behavior of Materials)* *Spring 2016 and Spring 2018*

- Supervised 60 students weekly with experiments on cast iron, low carbon steels, stainless steels and polymers
- Worked 10 hours per week on measuring tensile, compressive, flexural, toughness, impact and creep properties along with effects of heat treatment processes on these materials

**Department of Civil and Environmental Engineering, University of Illinois** *Urbana, IL*  
*Graduate Teaching Assistant (CEE 401 – Concrete Materials)* *Fall 2016 and Fall 2017*

- Substituted for course instructor; took lecture classes for 18 PhD, MS and undergraduate students
- Supervised two lab sections weekly, graded lab reports and HW assignments

## PUBLICATIONS

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1. Watkins, T.\*, **Sarbapalli, D.\***, Counihan, M.J.\*, Danis, A.S., Zavadil, K.R., and Rodríguez-López, J. *Journal of Materials Chemistry A*, 2020.
2. Gossage, Z.T., Hui, J., **Sarbapalli, D.** and Rodríguez-López, J. *Analyst*, 2020.
3. Abdulrahiman, N., **Sarbapalli, D.**, Hui, J., Rodríguez-López, J. and Mendoza-Cortes, J. L. et al. *ACS Applied Materials & Interfaces*, 2020.
4. Hui, J., Gossage T.Z., **Sarbapalli, D.**, Hernandez-Burgos, K., and Rodríguez-López, J. *Analytical Chemistry*, 2018.
5. **Sarbapalli, D.**, and Mondal, P. in *Ceramic Engineering and Science Proceedings*, 2017
6. **Sarbapalli, D.**, Dhabalia, Y., Sarkar, K., and Bhattacharjee, B. *European Journal of Environmental and Civil Engineering*, 2016.

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\*Denotes equal contribution

## EXTRA-CURRICULAR ACTIVITIES

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**Joaquín Rodríguez-López (JRL) Research Group** *Fall 2018 - current*

- Instructor for JRL Group [Electrochemical Bootcamp](#) - a 3-day intensive set of experiments and demos aimed at introducing newcomers to advanced electrochemistry
- Assisted in experimental demonstrations for hispanic students within the Urbana Middle School system as part of “[Cena y Ciencias](#)” (Supper and Science) program
- Displayed simple experiments on battery science during [Beckman Open House](#)

**American Concrete Institute – Student Chapter (ACI-UIUC)** *Fall 2015 - Summer 2018*

- Conducted [OriginPro workshops](#), mentored undergraduates for student competition in ACI Convention, and organized outreach events in Engineering Open House

**Third Dimension Aeromodelling Club – NITT** *2012 - 2015*

- [Vice President](#) in senior year; Responsible for leading, organizing and implementing club activities such as RC aircraft fabrication for 40 members